

177352

Five-Year Review Report

First Five-Year Review Report

for the

Dixie Auto Salvage (Non-NPL) Site

Danville
Vermilion County, IL

May 2003

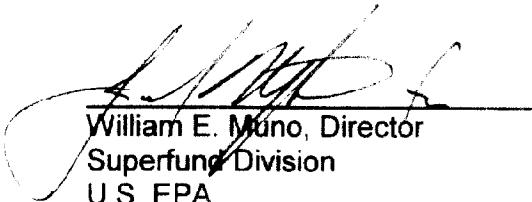
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5/28/03

Five-Year Review Report

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- Site Maps
- Groundwater Monitoring Results Table
- "ARARs Analysis" Document
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- List of Documents Reviewed

List of Acronyms

AOC	Administrative Order on Consent
ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
EE/CA	Engineering Evaluation/Cost Analysis
IEPA	Illinois Environmental Protection Agency
mg/kg	Milligrams per kilogram
NCP	National (Oil and Hazardous Substances Pollution) Contingency Plan
NPL	National Priorities List
NTC	Non time critical (removal action)
O&M	Operation and maintenance
PCDFs	Polychlorinated dibenzofurans
PCBs	Polychlorinated biphenyls
PPB	Parts per billion
PPM	Parts per million
PRP	Potentially responsible party
RCRA	Resource Conservation and Recovery Act
VOCs	Volatile organic compounds
U.S. EPA	United States Environmental Protection Agency

Executive Summary

The Dixie Auto Salvage (DAS) non-National Priorities List (NPL) site is located between the North Fork of the Vermilion River and State Highway 1, about three miles north of Danville, IL. The Illinois Environmental Protection Agency (IEPA) was made aware of possible contamination at the site in March 1994. IEPA referred the site to U.S. EPA in August 1994 after it inspected the site in April 1994 and identified several areas of potential concern.

U.S. EPA evaluated the site in late 1994 and also determined that the General Electric Company (GE) was a potentially responsible party. In 1995, under an Administrative Order on Consent (AOC), GE removed over 800 tons of contaminated soil and other debris to stabilize the site and also erected a fence around potentially impacted areas to prevent casual access to plausibly contaminated areas.

Next, GE evaluated residual contaminant levels at the site and then, in accordance with a second AOC, conducted a non-time critical (NTC) removal action beginning in October 1998. The NTC removal action was the final cleanup action for the site and included the excavation and on-site consolidation of contaminated soil, sediments, and debris; the installation of a RCRA Subtitle C-type cap over the area of waste consolidation; the installation of a leachate collection system; the conduct of habitat enhancement actions; and the placement of institutional controls upon the property in the area of waste consolidation. GE completed the NTC removal action in Summer 1999 and, in accordance with the AOC, has been operating and maintaining the cap and leachate collection system and periodically sampling groundwater beneath the site since then.

U.S. EPA conducted a Five-year Review of the DAS site cleanup remedy in accordance with Agency policy. The signature date of the AOC (September 1998) for the NTC removal action is the trigger date for conduct of the first Five-Year Review at the site.

U.S. EPA has determined that the remedy at the DAS site is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled through physical barriers (e.g. landfill cap, site fence) that are being maintained in working order. Monitoring well sampling results show that site contaminants are not moving into the groundwater.

U.S. EPA will conduct the next Five-Year Review at the DAS site in Spring 2008.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Dixie Auto Salvage		(IEPA identifier: "Burris Property")
EPA ID (from WasteLAN): IL0001086842		
Region: 5	State: IL	City/County: Danville - Vermilion County
SITE STATUS		
NPL status: <input type="checkbox"/> Final <input type="checkbox"/> Deleted <input checked="" type="checkbox"/> Other (specify) Non-NPL Site		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs?* <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion date: 09/12/2000	
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (Part of the site is available for reuse, however.)		
REVIEW STATUS		
Lead agency: <input checked="" type="checkbox"/> U.S. EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: Kevin Adler		
Author title: Remedial Project Manager	Author affiliation: U.S. EPA - Superfund	
Review period: 02 /18 /2003 to 04 /18 /2003		
Date(s) of site inspection: 04/02/2003 (most recent) - Yearly since construction completed.		
Type of review: <input type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input checked="" type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion		
Review number: <input checked="" type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <input type="checkbox"/> Actual RA Onsite Construction at OU # _____ <input type="checkbox"/> Actual RA Start at OU# _____ <input type="checkbox"/> Construction Completion <input type="checkbox"/> Previous Five-Year Review Report <input checked="" type="checkbox"/> Other (specify) Actual start of final non-time critical removal action by PRP.		
Triggering action date (from WasteLAN): 09 / 02 / 1998 (Signature date of AOC)		
Due date (five years after triggering action date): 09 /02 /2003		

Five-Year Review Summary Form, cont'd.

Issues:

None

Recommendations and Follow-up Actions:

None

Protectiveness Statement(s):

The remedy is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled through physical barriers (e.g. landfill cap, site fence) that are being maintained in working order. Monitoring well sampling results show that site contaminants are not moving into the groundwater.

Other Comments:

None

Five-Year Review Report

I. Introduction

The United States Environmental Protection Agency (U.S. EPA) Region 5, in consultation with the Illinois Environmental Protection Agency (IEPA), has conducted the first Five-Year Review for the Dixie Auto Salvage (DAS) non-NPL site, Danville, Illinois. We conducted this review from February 2003 through April 2003. This report documents the results of the first Five-Year Review at the DAS site.

Purpose

U.S. EPA conducts a Five-Year Review to determine whether a cleanup remedy at a site is, or is expected to be, protective of human health and the environment. We document our review methods, findings, and conclusions in Five-Year Review reports. In addition, we identify any issues that we found during our review of site cleanup remedies in Five-Year Review reports and we make recommendations on ways to address these issues.

Authority

U.S. EPA prepared this Five-Year Review report pursuant to CERCLA § 121 and the National Contingency Plan (NCP). CERCLA § 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

U.S. EPA interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR § 300.430(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

Triggering Action

A Five-Year Review is applicable to the DAS site because hazardous substances, pollutants, or contaminants remaining at the site have been left on site above levels that allow for unlimited use and unrestricted exposure. Hazardous substances (PCBs and lead) were left onsite after a non-time critical (NTC) removal action was completed in 1999. The triggering action for this review is the signature date for the Administrative

Order on Consent (AOC) for the NTC removal action, as shown in U.S. EPA's CERCLIS database: September 02, 1998. We shall undertake future Five-Year Reviews of the DAS site as long as hazardous substances remain on site above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

The following table summarizes the site chronology to date.

Table 1: Chronology of Site Events

Event	Date
Initial discovery of contamination	April 1994 (IEPA)
Pre-NPL responses	1994-1995
NPL listing	N/A
Removal Investigation complete	1995
Administrative Order on Consent (#1)	July 1995
Initial Removal Action	Summer-Fall 1995
Engineering Evaluation/Cost Analysis	1996-1997
Action Memorandum signature	September 1998
Administrative Order on Consent (#2)	September 2, 1998
Actual NTC removal action start	October 12, 1998
Construction dates (start, finish)	October 1998-July 1999
Construction completion date	September 12, 2000
Final Close-out Report	(Pending completion of O&M)
Deletion from NPL	N/A
Previous Five-Year Reviews	This is the initial review.
Site Inspection date - Initial review	April 2, 2003

III. Background

Site Characteristics

The DAS site is a 15-acre property located at 24455 State Route 1, about 3 miles north of Danville, Vermilion County, Illinois (see Figure 1). The site is a semi-rural, partially-wooded residential lot adjacent to the North Fork of the Vermilion River. During the 1960's and 1970's, a former owner of the property operated the Dixie Auto Salvage Yard at which he allegedly burned numerous materials, such as auto parts, wire, and small lighting capacitors, to recover metals for resale. The former owner also dumped the small capacitors and other items that contained hazardous materials, such as lead and PCBs, into several on-site ravines as fill material (along with tree stumps, etc.). Asphaltic wax material derived from the same source as the capacitors was also disposed of at the site. In mid-1960, a large fire within the ravine fill area caused a substantial quantity of the asphaltic wax material to melt and then flow from the ravines towards and partially into the Vermilion River.

The previous owners (the Burris family) of the property purchased it in 1987 and maintained a home and small business on a portion of the site until the final cleanup action began in 1998. The General Electric Company (GE) purchased the majority of the site from the Burris family in 1998. The Burris home has been removed from the property but the workshop remains.

Land and Resource Use

The site is in a semi-rural residential area. Homes are located directly north and to the west of State Route 1. An RV/camper sales and service business is located directly adjacent to the south.

Groundwater beneath the site is not used for any purpose. However, city water is available to the south of site and to the north the homes are on private wells. The North Fork of the Vermilion River is the eastern boundary of the site. The site drains into the river, which flows into Lake Vermilion, the water supply for Danville.

Recreational fishing likely occurs in the Vermilion River.

History of Contamination

The IEPA was made aware of possible contamination at the DAS site in mid-March 1994 (the result of a telephoned complaint to the *Commercial News* of Danville). The caller voiced concerns about alleged open dumping of wastes and possible radioactive materials in a ravine behind the former Dixie Auto Salvage Yard.

IEPA inspected the site on April 1, 1994. Its inspectors took three soil samples and 34 photographs to document the conditions of the site. IEPA reported finding various electrical components consisting of wire, solder, small capacitors, transformers and a substance known as "Compound" at the site. Later, it determined that the "Compound" was asphalt wax material used in sealing electrical components. IEPA's inspectors also discovered several burn areas on site and noted that the ashes were mixed with electrical components. The asphalt wax material was found to be in various shapes and sizes. IEPA concluded that electrical components were burned to salvage the metals and the asphalt wax material, when molten, was allowed to run into any type of container that was available, including disposal drums and cardboard boxes, or directly onto the ground. Analytical results of three soil samples indicated concentrations of polychlorinated biphenyls (PCBs) and lead above guidelines.

Initial Response Actions

IEPA made requests for assistance from U.S. EPA's Emergency Response Branch in May and July 1994. In the interim, IEPA sampled the Burris family drinking water well in June 1994. IEPA found the well was recently installed (in 1989) and that it was drilled to a depth of 200 feet. Analysis of the groundwater sample yielded no results above drinking water standards. Lastly, IEPA advised the Burris family and their neighbors that PCBs had been found on the site and that they should avoid specific areas of the property until the contamination could be addressed.

U.S. EPA was able to inspect the DAS site under our Superfund authority in August 1994 and we confirmed IEPA's findings. Since IEPA had discovered that the capacitors may have come from the GE manufacturing plant located in Danville (that was later purchased by Valmont Corporation), we sent GE a "General Notice of Potential Liability and Request for Information" letter in November 1994, signifying that we believed GE to be a potentially responsible party (PRP) at the site. GE sent us a reply to our notice letter and gave us documentation on the various substances and compounds used at the former GE facility, including the capacitors and asphaltic wax material.

We released the "Removal Action Plan (RAP) for Dixie Auto Salvage Yard" in January 1995. We presented our site inspection and sampling results in the RAP and verified that the concentrations of PCBs and lead we found at the site were above action levels. We also presented our plan for the removal of site contaminants in the RAP and we intended to undertake the cleanup plan under our Superfund removal authority. Our site cleanup plan included writing a work plan, health and safety plan, site security plan, and a site sampling plan to determine the nature and extent of surficial soil contaminants. Our site cleanup plan also included the removal, characterization, and proper off-site disposal of all exposed containers, rubber compounds, capacitors, and lighting ballasts (containing the asphaltic wax material) and the removal, characterization, and off-site disposal of contaminated surface soil. Lastly, we would perform a sub-surface soil contaminant investigation.

U.S. EPA and GE reached an initial cleanup agreement in July 1995. Under an Administrative Order on Consent (AOC), GE agreed to undertake the surface waste removal, site security, and extent of contamination tasks identified in our January 1995 RAP. GE proceeded to remove over 800 tons of contaminated soil, capacitors, blocks of asphaltic wax material, and other debris during the summer and fall of 1995. GE also placed a fence around the site, installed four groundwater monitoring wells and analyzed groundwater samples, and sampled soil from more than 50 surface and subsurface locations on the property.

Following the conclusion of its limited removal action at the site, GE produced a January 1996 report ("GE Report") which contained a detailed description of the results of the testing and studies that had been performed up to that time. The GE Report indicated that certain areas of the ground surface remained contaminated with PCBs and lead above recommended cleanup or action levels. Low levels of volatile organic compounds (VOCs) were found below the ground surface in fill areas. The asphaltic wax material found at the site, including the material that flowed into the river, contained PCBs above recommended cleanup levels. However, the river water quality was seemingly not affected by the asphaltic wax material containing PCBs, possibly because PCBs have low solubility in water and appeared to be tightly bound to the asphaltic wax material. Groundwater samples were shown to be unaffected by the surface soil contamination at the site.

U.S. EPA and GE also sampled the site for dioxins and polychlorinated dibenzofurans (PCDFs), respectively, in July 1996. U.S. EPA was concerned because PCB-containing items (such as the small lighting capacitors) had been burned at the site over the years. We thought there was the possibility that dioxins and PCDFs may have been produced as a result of incomplete combustion and thus could also be a site contaminant hazard. Based on the dioxin and PCDF sampling information, we noted that low levels of these compounds were present, but we determined that setting a PCB-cleanup level in accordance with our PCB-spill cleanup guidance for the DAS site would also allow for the complete excavation of any soils or materials containing dioxins and PCDFs above health-based cleanup levels.

Basis for Taking Action

Contaminants of Concern

U.S. EPA, IEPA, and GE sampled the soil and debris at the DAS site from 1994-1996 and showed that PCBs and lead are present at concentrations above recommended health-based cleanup levels (10 ppm for PCBs and 400 ppm for lead). GE and U.S. EPA also performed a soil sampling event that confirmed that low levels of dioxin and polychlorinated dibenzofurans are also present above recommended health-based levels within the volume of soil and debris impacted by PCBs. The asphaltic wax material in the river also had PCBs in it.

Contaminant Exposures

We addressed the DAS site contaminants in a removal action memorandum dated September 1998. We found that actual or potential human exposures to contaminants in site soil and sediments were associated with human health risks due to levels that exceeded U.S. EPA's risk management criteria (i.e. excess carcinogenic risk exceeded the risk range of 1×10^{-4} to 1×10^{-6} and/or non-carcinogenic hazards exceeded a hazard index (HI) of 1) under reasonable exposure scenarios. Surface soils impacted by PCBs, lead, and dioxins/furans were subject to erosion which could have released hazardous substances into the adjacent river. Although the site fence had functioned to prevent casual access to the burn areas, it would not have served to prevent animals or persistent trespassers from coming into contact with the impacted soil and debris.

We also examined the situation regarding the asphaltic wax material in the river with respect to PCB-contaminant levels and its potential impact on endangered species in the area. We concluded that the asphaltic wax material containing PCBs could be a low level, long term threat to aquatic species, such as freshwater mussels, that might be living in the area. We recommended that the asphaltic wax material be removed from the riverbed in compliance with U.S. EPA's residential spill policy for PCB cleanups.

IV. Remedial (NTC Removal) Actions

Remedy Selection and Implementation

After completing the sampling events in 1996, GE performed the equivalent of an Engineering Evaluation and Cost Analysis (EE/CA) at the DAS site. GE submitted to U.S. EPA a report entitled "Dixie Auto Salvage Site Response Action Alternative Evaluation" ("1997 Report") in May 1997 to document the EE/CA. GE outlined two proposed final cleanup options for the site in the 1997 Report. The first option was the conduct of an on-site consolidation remedy and the second was the conduct of an off-site disposal remedy.

We reviewed the 1997 Report and discussed the two cleanup options with GE. We then made recommended modifications to the options and then presented them to the public in a proposed plan for removal action in June 1998. Following a public meeting and comment period on the proposed plan, we selected the first option, on site consolidation of contaminants, as the final site cleanup action.

The on-site consolidation of contaminants remedy consisted of the excavation of soil and debris from limited areas of the site and the consolidation of the excavated soil and debris on an upland area (see Figure 2). After the wastes were placed on the consolidation area, a RCRA Subtitle C soil cover (cap) would be placed over it to prevent human or ecological receptors from coming in contact with the wastes and also to prevent contaminants from moving off-site. Groundwater quality beneath the waste

consolidation area would be monitored periodically and the soil cover would be inspected (and repaired if necessary) on an annual basis to ensure its effectiveness.

Lastly, GE was to purchase much of the site from the Burris family so that they could be relocated to another property. (The Burris family would retain ownership of an acre or so of highway frontage containing the workshop building because this area was found to be unaffected by the past waste disposal practices of the Dixie Auto Salvage Yard.) GE ownership of the waste consolidation area property would, in our opinion, provide the greatest assurances that management of the wastes would be safely and efficiently performed.

U.S. EPA and GE signed a second AOC in September 1998 wherein GE agreed to perform the selected cleanup action. Work crews were mobilized to the site in October 1998 and all construction work was completed in July 1999.

GE issued a Final Engineering Report in October 1999 detailing its site cleanup actions. Except in the area of waste consolidation, GE excavated to depth all upland area soil and debris containing PCBs above 10 ppm and lead in excess of 400 ppm. The excavated material was placed into the waste consolidation area.

At the same time, GE placed sheet-piling around the asphaltic wax material in the river, dewatered the area, and excavated the asphaltic wax material from the riverbed. GE also excavated five feet of sediment from the sides and below the asphaltic wax material as a precaution against leaving PCBs behind in the river sediment. The excavated material was dewatered and placed into the on-site waste consolidation area.

Lastly, GE excavated the asphaltic wax material and PCB-impacted soils at the bottoms of the ravines that drained into the river. A target PCB cleanup level of 5 ppm was met for the ravine excavation work. Excavated material was placed into the on-site waste consolidation area.

GE graded and then covered the on-site waste consolidation area with a soil-composite layer cap when it completed all the waste excavation tasks. The cap was placed on the waste consolidation area to prevent contact with the contaminants and to prevent movement of the wastes off-site. The cap was constructed by placing a non-woven geotextile directly over the consolidated wastes, placing a 40-mil HDPE (high density polyethylene) flexible membrane liner over the geotextile, placing a drainage geotextile over the HDPE liner, and then 3 feet of a frost-protective soil layer over the drainage geotextile. The frost-protective soil layer consisted of 30 inches of clean soil followed by 6 inches of clean topsoil. The topsoil was seeded with grass to prevent erosion and the waste consolidation area was fenced.

GE also installed a leachate collection system into the waste consolidation area. The leachate collection system will prevent the off-site movement of wastes in any leachate

generated beneath the cap. The system consists of a collection trench (in contact with the waste) with attached piping that directs the leachate by gravity into a leachate storage container accessible through a manhole. The system has an estimated 1269 gallon storage capacity.

GE placed institutional controls on the property to help prevent improper site re-use in the future and also conducted habitat enhancement actions by constructing bird and bat houses in several areas of the site.

We estimate that the final cleanup action cost GE about \$3.6 million to complete.

Operation and Maintenance

The AOC requires GE to perform operation and maintenance (O&M) tasks at the DAS site for a minimum of 30 years and to report to U.S. EPA on the work performed. GE agreed to periodically remove collected leachate and dispose of the leachate off site and to monthly inspect the cap and fence and make any repairs as necessary. GE also agreed to monitor groundwater quality beneath the site by sampling the monitoring wells on a quarterly basis for the first two years, semi-annually for years three and four, and annual for years five through thirty. The water samples would be analyzed for lead, PCBs, and VOCs to help us evaluate whether site contaminants are moving into the groundwater from the waste consolidation area.

We do not have cost figures for the O&M effort.

V. Progress Since the Last Review

This is the first Five-Year Review for this site.

VI. Five-Year Review Process

Administrative Components

We began the Five-Year Review for the site in February 2003. The site remedial project manager (RPM), during routine discussions about the various parts of the DAS site, verbally notified the PRP and IEPA that he was beginning the review and that they were encouraged to comment on the review process. The RPM also began a review of site documents and reports.

Community Involvement

We notified the Danville community of the start of the Five-Year Review by publishing an advertisement in a newspaper of general circulation and we invited community members to submit any comments to us. We received no comments.

Document Review

U.S. EPA reviewed relevant site documents for the site.

A complete list of documents reviewed is attached.

Data Review

GE regularly submitted reports to U.S. EPA describing its O&M efforts for the waste consolidation area and groundwater monitoring. The reports were submitted in accordance with the AOC and O&M was performed in accordance with the approved O&M Plan. We reviewed the reports for the time period following completion of remedy construction in July 1999 through the present.

Cap inspections

GE reported that it has had to periodically make repairs on the cap in small areas of the site due to slumping or to animal burrowing. Each time the repairs were made within a reasonable time frame from when the problems were noted.

GW results

GE reported that the groundwater samples showed no evidence of site contaminants moving from the waste consolidation area into the groundwater. Occasionally, a laboratory error would be made when analyzing the water samples, requiring a re-sampling or other effort. For example, in 2001, an anomalous PCB detection was made in a water sample. Since PCBs had not been detected in the groundwater before, GE began taking more stringent quality-control steps during sample gathering and analysis to help determine whether the PCB detection was "real" or an aberration. Subsequent resampling showed that no PCBs were in the groundwater.

All groundwater samples show traces of lead in them. The detected values range from 5 to 150 ppb. However, the upgradient monitor well (MW-1, located next to the highway) usually shows the highest lead reading, so we do not attribute the lead to the site or consider the readings to mean lead is moving into the groundwater from the waste consolidation area. (See Groundwater Monitoring Results Table, attached.)

Site Inspection

U.S. EPA and IEPA performed a site inspection on April 2, 2003 (See Inspection Report, attached). We found that the DAS containment area is functioning as designed and that the cover has not been breached. The site is secured by a chain link fence to prevent casual trespassing in the waste consolidation area. The site had recently been trespassed upon by unknown people who used the surface to practice skeet shooting. A police report was filed and repairs were made to the fence that was

cut in order to gain access to the site.

Interviews

U.S. EPA did not formally interview members of the public about the protectiveness of the remedial actions at the DAS site because there has been little or no interest expressed in the site status since the final cleanup action was completed in 1999.

VII. Technical Assessment

U.S. EPA asked the following three key questions during our technical assessment of the DAS site cleanup to provide the basis for our protectiveness determination(s). Our conclusions are based on the information reviewed in the previous sections:

Question A: Is the remedy functioning as intended by the decision documents?

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Question A -Is the remedy functioning as intended by the decision documents?

U.S. EPA's analysis shows that the remedy is functioning as designed. The soil cap is easily maintained and necessary repairs are made within a reasonable time frame. Routine O&M of the cap will maintain the effectiveness of the waste consolidation area.

We identified no opportunities to optimize performance of O&M.

Cap repair rates appeared to be normal.

Question B - Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

Changes in Standards and TBCs.

The DAS cleanup objective was to remove the asphaltic wax material (containing PCBs) from the North Fork of the Vermilion River with a nominal PCB cleanup goal of 1-2 ppm in the river sediment. Although PCB cleanup goals at other sediment sites in the nation have since been set at as low as 0.25 to 1.0 ppm, the DAS cleanup is likely more stringent than 1-2 ppm, due to the removal of several feet of soil, sediment, and clay around and below the asphaltic wax material flow.

We selected a 10 ppm PCB cleanup level for upland areas outside of the waste consolidation area and 5 ppm in the ravines. U.S. EPA considers a PCB cleanup level of 1-10 ppm to be protective for unrestricted use (with the lower value preferred). However, the site institutional controls and the site fence help prevent unrestricted use of the site. Therefore, the PCB cleanup level and remedial action objective used at the time of remedy selection is still valid.

We examined the "ARARs Analysis" document¹ we provided to support the removal Action Memorandum in September 1998. We found the analysis to continue to support the assumptions made when we chose the final cleanup remedy for the DAS site and that no ARARs had changed since the document was written. (See Attachments for a copy of the ARARs Analysis document.)

Changes in Exposure Pathways

There have been no changes in exposure pathways or site uses since the remedy was completed. Thus, the exposure pathways assumptions are still valid.

Question C - Has any other information come to light that could call into question the protectiveness of the remedy?

U.S. EPA is not aware of any other information concerning the DAS site that could compromise the protectiveness of the remedy.

Technical Assessment Summary

According to data we reviewed and the results of the site inspection, we believe that the waste consolidation area is being operated and maintained properly. Thus, the remedy is functioning as intended by the design documents.

VIII. Issues

We identified no issues with the site cleanup remedy during the Five-year Review.

IX. Recommendations and Follow-up Actions

We have no recommendations and follow-up actions for the cleanup remedy.

¹"Analysis of Applicable or Relevant and Appropriate Requirements of State and Federal Environmental Laws and Regulations (ARARs)," Dixie Auto Salvage Site, June 1998.

X. Protectiveness Statement(s)

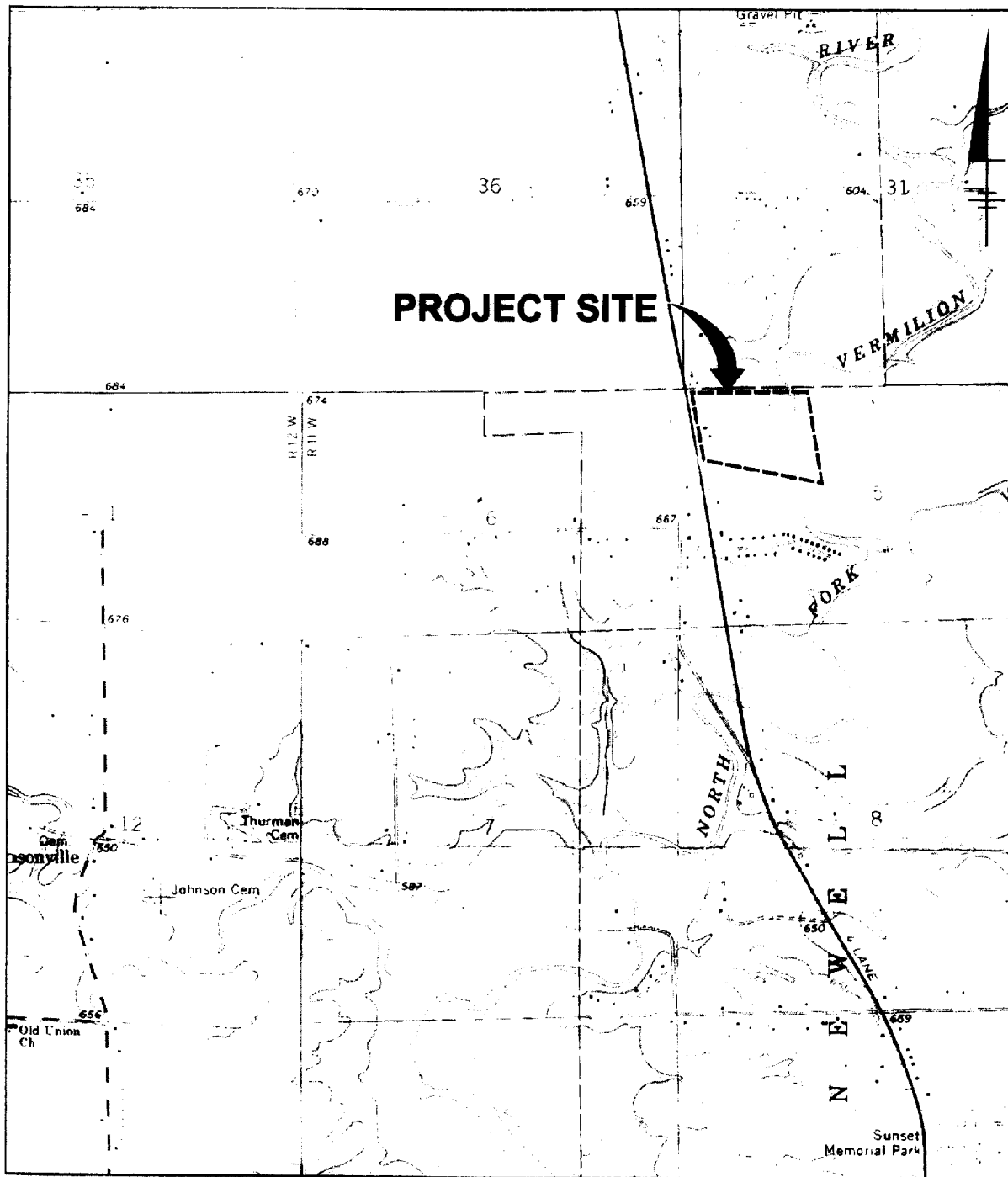
U.S. EPA has determined that the remedy at the DAS site is protective of human health and the environment because the cleanup is complete and the remedy is operating as designed.

XI. Next Review

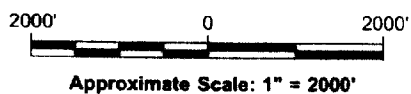
U.S. EPA will conduct the second Five-Year Review for the DAS site five years after this first Five-Year Review was completed.

Attachments

Figures 1 and 2: Site Maps
Groundwater Monitoring Results Table (2000-2002)
"ARARs Analysis" Document, June 1998
April 2003 Site Inspection Report
List of Documents Reviewed



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD. DANVILLE NW, ILL., 1978.



AREA LOCATION

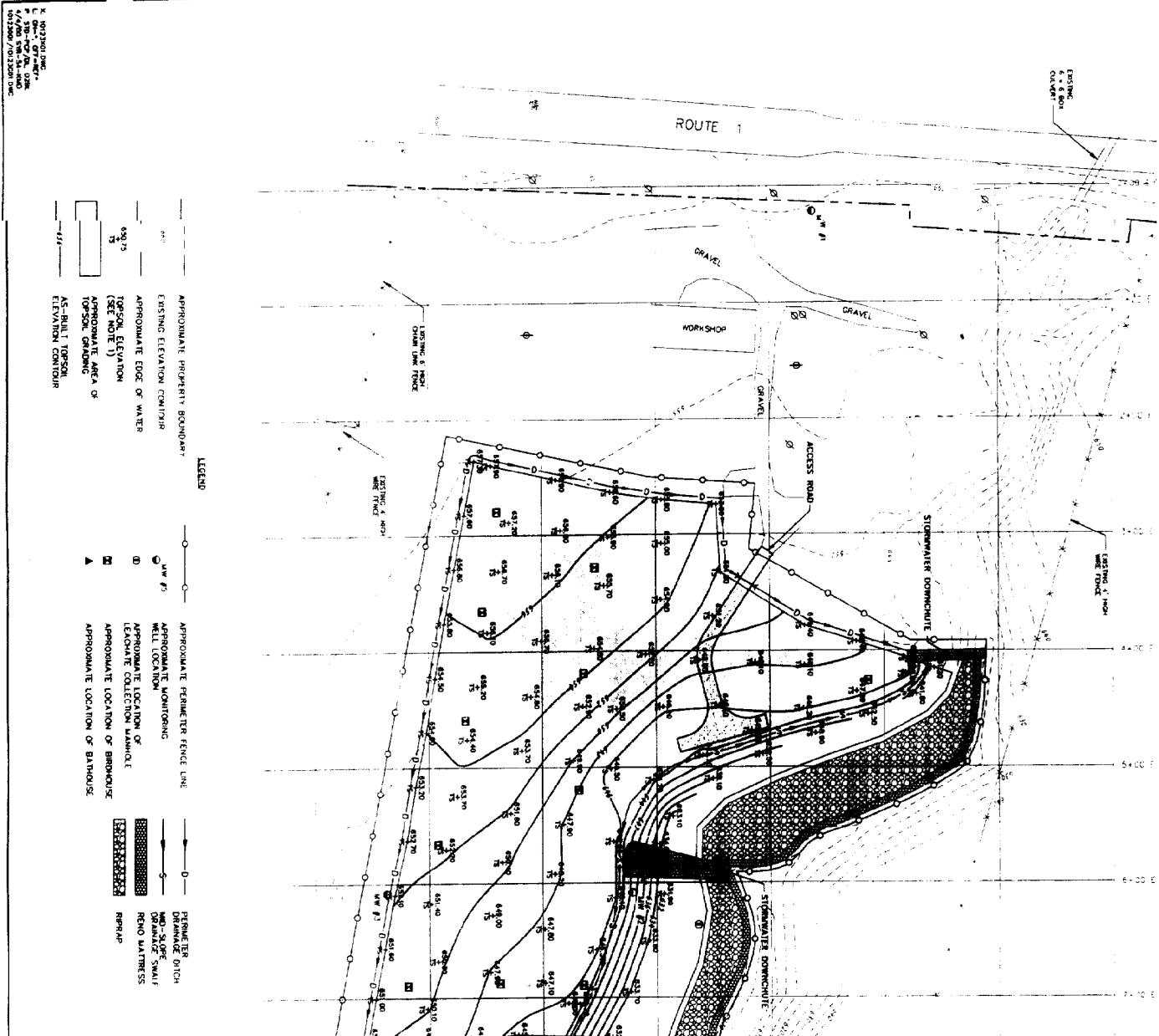
DIXIE AUTO SALVAGE SITE
DANVILLE, ILLINOIS
OPERATION, MAINTENANCE, AND MONITORING MANUAL

SITE PLAN

BBL

ENVIRONMENTAL SERVICES, INC.
Remedial Action • Management and Construction

FIGURE
1



Groundwater Monitoring Results Table

Well Number	PCBs - ppb	Lead - ppm	VOCs - ppb	Date of sample
MW-1	ND	0.150	ND	Feb. 4, 2000
	ND	ND	ND	May 4, 2000
	ND	0.041	ND	Aug. 11, 2000
	ND	0.0220	ND	Oct 31 and Dec 1, 2000
	ND	0.0340	ND	Feb. 8, 2001
	ND	0.0185	3 (acetone)	May 8, 2001
	ND	0.0639	ND	Aug. 9, 2001
	ND	0.0356	ND	Oct 9, 2001
	ND	0.0081	ND	April 16, 2002
	ND	0.0085	ND	Oct 24, 2002
MW-4	ND	0.031	ND	Feb. 4, 2000
	ND	ND	ND	May 4, 2000
	ND	0.012	ND	Aug. 11, 2000
	ND	0.014	ND	Oct 31 and Dec 1, 2000
	ND	0.0158	ND	Feb. 8, 2001
	ND	0.0150	3 (acetone)	May 8, 2001
	ND	0.0132	ND	Aug. 9, 2001
	ND	0.0378	ND	Oct 9-11, 2001
	ND	0.0031	1 (Naphthalene)	April 16, 2002
	ND	0.0053	ND	Oct 24, 2002

Groundwater Monitoring Results Table (cont'd)

Well Number	PCBs - ppb	Lead - ppm	VOCs - ppb	Date of sample
MW-5	ND	0.071	ND	Feb. 4, 2000
	ND	ND	1200 (MEK) ND	May 4 and June 5, 2000
	ND	0.009	ND	Aug. 11, 2000
	ND	0.0119	ND	Oct 31 and Dec 1, 2000
	ND	0.0336	ND	Feb. 8, 2001
	ND	ND	2 (acetone)	May 8, 2001
	0.65 (1242)	0.0144	ND	Aug. 9, 2001
	N/A	N/A	ND	Aug 9, 2001
	ND	0.0270	ND	Oct 9-11, 2001
	ND	N/A	N/A	Oct 9-11, 2001
	ND	0.016	ND	April 16, 2002
	ND	0.03	ND	Oct 24, 2002

Notes:

ND = Not detected

N/A = Not analyzed

Reading for PCBs (MW-5 - Aug 2001) is anomalous, based on re-sampling event.

Reading for VOCs (MW-5 - May 2000) is anomalous, based on re-sampling event.

Readings for VOCs (all wells - May 2001) are anomalous, based on re-sampling event.

Analysis of Applicable or Relevant and Appropriate Requirements
of State and Federal Environmental Laws and Regulations (ARARs)

Dixie Auto Salvage Site
June 1998

The chemicals of concern at this site include polychlorinated biphenyls (PCBs) and lead. The source of the PCBs are capacitors from lighting units and other related wastes. The source of the lead is believed to be from vehicle batteries and perhaps the ballasts used to contain the capacitors. Contamination of the site is located on and below the surface of the property and in the adjacent North Fork of the Vermilion River. The disposal is believed to have occurred prior to 1978. There are State listed and endangered species that have been reported in the North Fork of the Vermilion River. The proposed removal actions are excavation and off-site disposal or consolidation and capping on-site of the PCB and lead wastes and contaminated soils. This would include activities to remove asphaltic wax from the North Branch of the Vermilion River. The wastes contain concentrations of PCBs above levels which are protective of the environment and human health¹ and lead concentrations above 400 parts per million (ppm).

The selected removal activities will comply with all substantive Federal and any more stringent State environmental ARARs, to the maximum extent practicable. Since this is a removal action the National Oil and Hazardous Substance Contingency Plan (NCP) may allow for some deviation from these identified ARARs due to the exigencies of the situation, 40 CFR 300.415(j). Any deviation will be subject to U.S. EPA prior approval. The major ARARs that will be attained by the components of the selected removal are listed below. The list of ARARs below is intended to be comprehensive, however, further refinement of the ARARs may be necessary prior to initiation of on-site activities depending on the activities being implemented.

1. Toxic Substance Control Act (TSCA), 15 U.S.C. 2601, 40 CFR 761. TSCA is considered an ARAR for both removal actions due to the presence of PCBs, a TSCA regulated substance. The PCB cleanup concentration is derived from the TSCA Spill Policy (40 CFR 761.125) and protection of human health and sensitive ecosystems in the area. That policy generally allows, in a residential area, for surficial concentrations of between 1 to 10 ppm PCBs. At 10 ppm at least a 10 inch soil cover is required with appropriate deed restrictions. At 1 ppm no further restrictions are required. On the surface of the land the 10 ppm standard will be used to determine the areas of excavation with all consolidated PCB wastes below a soil/composite layer cap, with a fence and deed restrictions on the use of the consolidated waste area. For the adjacent stream, removal of the asphaltic wax and associated soils should achieve a residual concentration below 10 ppm. If it does not then the area will either be "regraded" with the equivalent of a 10- inch soil cover or further excavated.

Generally, this equates to between 1 to 10 ppm. The appropriate concentration is determined based on the media involved and the potential for future exposure.

Excavated material which is transported off-site shall be sent to a TSCA approved landfill or incinerator in compliance with 40 CFR 761.60(a)(4). The consolidation of PCB wastes in the existing on-site disposal area shall be in compliance with the chemical waste landfill requirements of 40 CFR 761.75. The design and monitoring of the proposed waste consolidation landfill cell will meet these requirements in the following manner. The liner requirements of 40 CFR 761.75(b)(1) & (2) has been demonstrated by the thickness and impermeability of the underlying native geology in the area where the wastes were disposed² and the absence of PCBs or lead in the sampled groundwater. The distance to groundwater requirements of 40 CFR 761.75(b)(3) will be met by virtue of a minimum of 31 feet separating the bottom of the landfill to the historic groundwater table and the demonstrated absence of PCBs or lead in the sampled groundwater. The flood protection requirements of 40 CFR 761.75(b)(4) will be met by design and installation of the appropriate surface water diversion structures. The landfill will be designed in a manner such that the slopes and other soil retention devices to minimize erosion and slumping of the cell and thus provide an equivalent level of protection as that provided by 40 CFR 761.75(b)(5). Leachate collection and groundwater monitoring systems will be installed to meet the performance objectives of 40 CFR 761.75(b)(6) and (7). Sufficient on-site support facilities, such as fencing, shall be installed to meet the performance objective of 40 CFR 761.75(b)(9).

2. Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901, 40 CFR 260. Both proposed removal actions will comply with RCRA but in different manners. For the on-site disposal option, the wastes containing lead were disposed of prior to 1980, those wastes are considered characteristic hazardous waste, and the on-site disposal option consists of waste consolidation within the area of contamination; thus, the RCRA regulations are not "applicable" to the on-site excavation and consolidation activities. No further treatment of the lead wastes will be necessary since they will be consolidated in an area which complies with the Toxic Substances Control Act (TSCA) chemical waste landfill requirements. Additionally, since the TSCA chemical waste landfill design requirements are at least as stringent as the RCRA landfill requirements, the RCRA landfill design requirements will generally not be considered relevant and appropriate for the design and maintenance of the landfill area. The RCRA regulations are relevant and appropriate for the purposes of groundwater monitoring, any on-site storage (for greater than 90 days) of the lead-contaminated wastes and soils, the proper decontamination of personnel and equipment, and deed

² See the May 1997, Dixie Auto Salvage Site Response Action Alternative Evaluation by O'Brien and Gere contained in the Administrative Record for a comparison of the equivalence of the design of the on-site landfill proposed for this removal action and the TSCA technical requirements. In certain instances, the design of the landfill does not exactly meet the design specifications contained in 40 CFR 761.75 but does demonstrate an equivalent level of protection pursuant to 40 CFR 761.75. Such alternate design, unless otherwise noted, is considered in compliance with the TSCA regulations.

and property use restrictions.

For the off-site disposal option, the RCRA generator requirements (40 CFR 262) and the land disposal restriction requirements (40 CFR 268) are applicable. Since the off-site disposal option is considered a clean closure and there is no evidence of groundwater contamination, no further RCRA regulations would be applicable or relevant and appropriate for the site.

3. Clean Air Act, 42 U.S.C. 7401, 40 CFR 50 & 52, Subpart O. The Clean Air Act is applicable to the excavation activities associated with both removal options. Additionally, any more stringent substantive provision of the Illinois equivalent to the Clean Air Act shall be complied with. During these excavation activities, the national ambient air quality standards for particulate matter, fugitive dust, and lead shall not be exceeded. For the on-site consolidation option, the vegetative cover shall be maintained in a manner which prevents fugitive dust emissions.

4. Clean Water Act, 33 U.S.C. 1251 and its implementing regulations. There are no discharges from treatment operations anticipated under either option. Wetlands are not involved with either action.. To the extent that any of the land-based excavation activities may cause a discharge of pollutants, the discharge shall be prevented to the maximum extent practicable and consistent with the Clean Water Act and its implementing regulations. The removal of the asphaltic wax and underlying soils from the river shall not result in the discharge of any pollutant to the waters of the river. This will be accomplished through installation of a temporary barrier system which will segregate the area of excavation from other non-contaminated areas of the river. Additionally, any more stringent substantive provision of the Illinois equivalent to the Clean Water Act shall be complied with.

5. State Endangered Species Act, 520 ILCS 10/2 and its implementing regulations. State-listed endangered and threatened mussel species have been recorded within one mile of the Site in the North Fork of the Vermilion River³. They are not known to be present in the asphaltic wax and underlying soil area nor inhabit the area to be excavated. To the extent they are in this area, the removal activities will prevent any destruction of individuals found in the area or further degradation of their habitat. The excavation of the asphaltic wax and underlying soils should improve the water quality and thus habitat of these animals. Upon completion of the removal action in the river, the area shall be returned to suitable conditions for habitat for these animals.

6. Navigation and Navigable Waters. Since a portion of the site contains the section of the North Branch Vermilion River adjacent to the contaminated property and

See July 10, 1996, memo from Dr. James Chapman to Kevin Adler entitled "Preliminary Sediment Cleanup Goal, Dixie Auto Salvage Yard, Danville, Illinois."

the removal action includes construction and decontamination activities in the River and its adjacent banks the removal action will, to the extent practicable, comply with the substantive State and Federal statutes and regulations which govern navigable waters and their banks. Some of the relevant statutory provisions may be found at 33 U.S.C 401 (construction of bridges, dams, causeways or dikes), 403 (obstruction of navigable waters), 407 (deposit of refuse in navigable waters), 419 (dumping of dredging or refuse into navigable waters), 426 (erosion of shoreline/shoreline damage mitigation), 441 and 449 (deposit of refuse), 500 (deflection of current), 546a (shoreline configuration), 562 (channel depths and dimensions), 565 (improvements), 577 (small rivers and harbor improvements), 603a (removal of snags and debris).

Inspection Report

**Dixie Auto Salvage Site
Danville, IL**

April 2, 2003

The RPM travelled to the Dixie Auto Salvage (DAS) Site, Danville, IL, on April 2, 2003, to inspect the site as a part of the DAS site Five-Year Review process. The General Electric Company (GE), as the primary potentially responsible party at the DAS site, performed the final cleanup action (a non-time critical (NTC) removal) beginning in October 1998, triggering the first Five-Year Review this year.

The NTC removal action was the final cleanup action for the site and included the excavation and on-site consolidation of contaminated soil, sediments, and debris; the installation of a RCRA Subtitle C-type cap over the area of waste consolidation; the installation of a leachate collection system; the conduct of habitat enhancement actions; and the placement of institutional controls upon the property in the area of waste consolidation. GE completed the NTC removal action in Summer 1999 and, in accordance with the AOC, has been operating and maintaining the cap and leachate collection system and periodically sampling groundwater beneath the site since then.

Site Visit

The RPM met Lucas Cullen, Project Engineer, of Blasland, Bouck & Lee, Inc. (BB&L) (GE's environmental consultant) and Mike Mullins, Environmental Protection Specialist, of IEPA at the site at about 10:45 am. Mr. Cullen was making the scheduled monthly site inspection visit on behalf of GE and had also sampled the three site groundwater monitoring wells prior to the Agencies' arrival.

The weather was clear and sunny, the temperature was 70 degrees and it was slightly breezy. There was no snow on the site and the grass on the cap was beginning to turn green. We spotted a group of six wild turkeys in the woods across one of the ravines (off site) and the remains of a squirrel found on the cap near the leachate collection system was evidence that a fox had recently enjoyed a meal there.

We discussed the reason for the site visit by the Agencies (Five-Year Review site inspection) and Mr. Cullen briefly discussed the results of his site walkover performed prior to our arrival. Mr. Cullen reported that he had had to temporarily repair parts of the fence on the south side of the site due to someone cutting the fence in order to gain access to the site. He also reported finding evidence that the trespasser had been skeet shooting on the property. Minor cap erosion was reported to be under control and the grass was now vigorously coming in. The leachate collection system had been emptied last month, so the leachate level was nil.

We then walked the inside of the security fence to observe the condition of the cap and

the fence, starting on the northeast area next to the leachate collection system and moving to the eastern and southern boundaries defined by the fence.

Initially, we observed that the fence was in good condition and that several "No Trespassing" signs were posted. As we moved to the southern fenceline we observed where the fence had been cut to gain entrance. Mr. Cullen had temporarily repaired the barbed wire strands and the chain link mesh with wire until he could make arrangements with a fencing contractor to effect more permanent repairs. We then proceeded back towards the center of the cap and discovered several spent shotgun shells and the scattered remains of many clay "pigeons" used for skeet shooting. The RPM advised Mr. Cullen to notify GE (the property owner) and to file a formal police report concerning the incident.

No erosional areas or animal burrows were observed in the cap in this area.

The slope on the northeast corner of the containment area near the leachate collection system is very steep and a rip rap-lined drainage ditch was fashioned into the land surface. The ditch directs surface water run-off to the north and down the slope into a ravine that directs surface water flow into the North Fork (of the) Vermilion River. An adequate amount of rip rap and a partial hay bale silt fence are in place to prevent erosion of this area of the cap. There is a minor amount of erosion of the slope along the edges of the rip rap, but BB&L and GE have been monitoring the area for some time and believe that the situation has now stabilized.

Mr. Cullen reported no problems with the leachate collection system. He did mention that one of the birdhouses (one of the habitat enhancements) had been shot out and needed to be replaced. Lastly, monitoring well sampling results showed that site contaminants are not moving into the groundwater.

Overall, the site looked to be in very good shape. Exposure pathways that could result in unacceptable risks are being controlled through the physical barriers (e.g. landfill cap, site fence) that are being maintained in working order.

The RPM departed the site at 11:45 am.

Recommendation

There were no major problems noted at the site. The only area of concern is the trespassing incident and it is recommended that a police report be filed.

List of Documents Reviewed

1. Operation, Maintenance, and Monitoring Manual, DAS site (GE), April 2000
2. Quarterly and Semi-Annual Groundwater Monitoring Reports (GE), 2000-2003
3. Annual Operation, Maintenance, and Monitoring Reports (GE), 2000-2002
4. Discovery Site Visit Report (Removal Assessment)
5. Proposed Plan for Removal Action, June 1998
6. Action Memorandum, September 1998
7. "ARARs Analysis" Document (from Action Memorandum), June 1998
8. Administrative Order on Consent, 1995
9. Administrative Order on Consent, 1998
10. Final Engineering Report (GE), April 2000
11. IEPA Site Inspection Report (electronic version), March 2002